

Title (en)

IMPROVED PAGING PROCEDURES FOR USER EQUIPMENTS REQUIRING COVERAGE EXTENSION

Title (de)

VERBESSERTE PAGING-VERFAHREN FÜR BENUTZERVORRICHTUNGEN MIT REICHWEITENERWEITERUNGSBEDARF

Title (fr)

PROCÉDURES DE RADIOMESSAGERIE AMÉLIORÉE POUR DES ÉQUIPEMENTS UTILISATEURS NÉCESSITANT UNE EXTENSION DE COUVERTURE

Publication

EP 3823375 A1 20210519 (EN)

Application

EP 20213543 A 20150223

Priority

- EP 20213543 A 20150223
- EP 15156154 A 20150223

Abstract (en)

The invention relates to a method for paging coverage extension UEs in a cell controlled by a radio base station. At least one regularly-occurring coverage-extension-specific paging possibility (CE-specific paging possibility), is defined for paging CE UEs. The CE-UEs in the cell regularly monitor the at least one CE-specific paging possibility. When the radio base station determines to page all the user equipments in the cell, it pages the CE user equipments in the cell at the CE-specific paging possibility, using a coverage extension technique. The invention also relates to a method for paging a CE UE, which performs radio measurements by the CE-capable user equipment to determine whether coverage extension is necessary. The radio base station is informed about whether the CE-capable user equipment needs coverage extension or not and then pages the CE UEs applying or not applying a CE technique depending on whether coverage extension is necessary or not.

IPC 8 full level

H04W 68/02 (2009.01); **H04W 4/70** (2018.01)

CPC (source: CN EP US)

H04L 5/006 (2013.01 - US); **H04W 4/70** (2018.02 - CN); **H04W 68/02** (2013.01 - EP US); **H04W 68/08** (2013.01 - CN);
H04W 4/70 (2018.02 - EP US); **H04W 88/02** (2013.01 - US); **H04W 88/08** (2013.01 - US)

Citation (applicant)

- "3GPP TS 36.331", article "Functions"
- 3GPP TS 36.331
- 3GPP TS 36.413
- "Low cost & enhanced coverage MTC UE for LTE", 3GPP RELEASE 12
- ERICSSON: "Revised WI: Further LTE Physical Layer Enhancements for MTC", 3GPP RP-141865, Retrieved from the Internet <URL:<http://www.3gpp.org>>
- "3GPP TS36.214 v10.1.0"

Citation (search report)

- [A] US 2014098761 A1 20140410 - LEE MOON-IL [US], et al
- [A] INTERDIGITAL: "Signaling aspects for CE and reduced Bandwidth UEs", vol. RAN WG2, no. Athens, Greece; 20150209 - 20150213, 31 January 2015 (2015-01-31), XP050952539, Retrieved from the Internet <URL:http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_89/Docs/> [retrieved on 20150131]
- [A] ALCATEL-LUCENT ET AL: "Considerations on idle mode Paging for Rel-13 Low Complexity UE", vol. RAN WG2, no. Athens, Greece; 20150209 - 20150213, 30 January 2015 (2015-01-30), XP050952306, Retrieved from the Internet <URL:http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_89/Docs/> [retrieved on 20150130]
- [A] HUAWEI ET AL: "Paging transmission for MTC UEs", vol. RAN WG1, no. Athens, Greece; 20150209 - 20150213, 8 February 2015 (2015-02-08), XP050933281, Retrieved from the Internet <URL:http://www.3gpp.org/ftp/Meetings_3GPP_SYNC/RAN1/Docs/> [retrieved on 20150208]
- [A] INTEL CORPORATION: "Enhancements to RAR and paging for MTC", vol. RAN WG1, no. Athens, Greece; 20150209 - 20150213, 8 February 2015 (2015-02-08), XP050933296, Retrieved from the Internet <URL:http://www.3gpp.org/ftp/Meetings_3GPP_SYNC/RAN1/Docs/> [retrieved on 20150208]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 3060019 A1 20160824; EP 3060019 B1 20210331; CN 107113776 A 20170829; CN 107113776 B 20201225; CN 112584495 A 20210330; CN 112584495 B 20241011; EP 3823375 A1 20210519; EP 3823375 B1 20230830; EP 4231678 A2 20230823; EP 4231678 A3 20231108; JP 2018509787 A 20180405; JP 2020074577 A 20200514; JP 6650454 B2 20200219; JP 6883674 B2 20210609; US 10085234 B2 20180925; US 10405297 B2 20190903; US 10750474 B2 20200818; US 11109350 B2 20210831; US 11696257 B2 20230704; US 2017311284 A1 20171026; US 2018359725 A1 20181213; US 2019342857 A1 20191107; US 2020337019 A1 20201022; US 2021352620 A1 20211111; WO 2016136143 A1 20160901

DOCDB simple family (application)

EP 15156154 A 20150223; CN 201680004550 A 20160128; CN 202011430606 A 20160128; EP 20213543 A 20150223; EP 23185483 A 20150223; JP 2016000417 W 20160128; JP 2017529852 A 20160128; JP 2020006144 A 20200117; US 201715645908 A 20170710; US 201816107345 A 20180821; US 201916514448 A 20190717; US 202016922363 A 20200707; US 202117382890 A 20210722